

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 21-38 are pending, Claims 1-20 having been canceled without prejudice or disclaimer and Claims 21-38 having been added by way of the present amendment. It is believed that no new matter has been added.

In the outstanding Office Action the drawings were objected to; Claim 3 was objected to; Claims 1 and 11 were rejected under 35 U.S.C. § 102(e) as being anticipated by Obhan (U.S. Patent No. 6,366,780); and Claims 2-10 and 12-20 were rejected under 35 U.S.C. § 112, second paragraph.

In response, Applicants traverse the objection to the drawings as failing to comply with 37 C.F.R. § 1.84(p)(4). 37 C.F.R. § 1.84(p)(4) states “[t]he same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character and the same reference character must never be used to designate different parts.” The base stations and cell sites are identified by reference numbers 20, 21 in Figure 1 and 40 and 41 in Figure 5. Figure 1 is directed to a first embodiment of the present invention (see, e.g. specification page 4, lines 25-27) and Figure 5 is directed to a second embodiment (specification page 5, lines 4-6). In these two embodiments, the radio network controller contains different features and therefore are labeled as RCN 10 (Figure 1) and RCN 30 (Figure 5). As can be seen, the base stations are shown to interact with the RCN 10 and RCN 30 of Figures 1 and 5. Therefore, because the RCNs are different in the two embodiments, it is appropriate to use different labels for the base stations and cell sites for the second embodiment, because the same base stations and cell sites do not operate with two different RCNs. Accordingly, it is respectfully submitted that Figures 1 and 5 comply with

37 C.F.R. § 1.84(p)(4) because these figures are not merely different views of a same system, but rather two distinct embodiments.

It is believed the objection to Claim 3 and the rejection of Claims 2-10 and 12-20 are moot in view of the cancellation of these claims. In paragraph 7 of the outstanding Office Action several questions are raised regarding the “direction” of allocating resources. Determining direction information is not difficult in modern mobile communication systems, which used sector-based antennas. In such systems, cells are divided into respective sectors, which is one way of achieving increased cell usage by using “spatial” diversity. Such systems are able to detect direction for both reception and transmission to/from a base station by sensing respective energies received at different antennas used at the base station. Accordingly, it is respectfully submitted that it is not necessary to have “position” detection devices as hypothesized in the outstanding Office Action, but merely “direction” location devices, which are typical in mobile systems. Thus, it is respectfully submitted that Claims 21-38 comply with 35 U.S.C. § 112, second paragraph. However, if the Examiner disagrees, the Examiner is invited to telephone the undersigned so that mutually agreeable claim language may be identified.

Claim 1 was rejected as being anticipated by Obhan. In view of the cancellation of Claim 1 and the addition of new Claim 21, Claim 21 will be discussed in light of Obhan.

However, a brief recapitulation of the disclosed invention is believed to be in order in order to set a context for the discussion of the claims relative to the prior art. When the resource allocation control process (for example of the embodiment of Figure 4) is begun upon receiving a resource allocation request from a requesting mobile station, the base station makes a determination that there is a non-allocated radio resource (e.g., channel or time slot) in the cell site of the base station of concern, and the non-allocated radio resource for the base station of concern is (or is not) in use in any of the respective cell sites of the neighboring

base stations. In such situations, the base station determines whether a direction of link data transmission related to the non-allocated radio resource is the same as a direction of link data transmission related to an allocated radio resource and one of the cell sites of the neighboring base stations (see e.g. Figure 4, step S5). When the link data transmission direction is not the same, the possibility of radio resource interference in the case of allocation of the same radio resource to the link between the base station and the requesting mobile station is taken into account, and the base station determines whether a level of priority of the requesting mobile station is higher than a level of priority of each of the mobile stations using the radio resources allocated (see e.g. step S6).

When the level of priority of the requesting mobile station is higher, the base station determines whether allocation of the non-allocated radio resource in the cell site of the base station of concern to the link is possible (e.g. step S7). Namely, even when the link data transmission direction is not the same, the severity level of radio resource interference is considered low and the non-allocated radio resource is allocated to the link at the level of priority of the requesting mobile station is high and so the allocation of the non-allocated radio resource is possible.

Accordingly, the new radio resource is allocated to the link based on both the use-state information and the priority information detected by the detecting step and a result of the determination steps discussed above.

With regard to Claim 21, the method includes the step of causing the base station to detect use-state information of radio resources and priority information of mobile stations using the same radio resource of both the base station of concern and neighboring base stations. The method also includes the step of causing the base station to determine whether a direction of link data transmission related to the non-allocated radio resource is the same as a direction of link data transmission related to an allocated radio resource and one of the cell

sites of the neighboring base station. Claim 21 also requires causing the base station to allocate a new radio resource to the link between the base station of concern and the requesting mobile station based both on the use-state information and the priority information in the detecting step and a result of the determination in the determining step.

In contrast, Obhan describes a corridor load that is periodically determined for each of the plurality of corridors, and access rules for the plurality of base stations forming the corridors are determined as well. When a loading level for any of the base stations within the corridor compares unfavorably to a loading threshold, the access rules for all of the plurality of the base stations forming the corridor are altered.

A feature of the invention of Claim 21 is that the base station determines whether a direction of the link data of the non-allocated radio resource is the same as a direction of link data transmission related to an allocated radio resource in one of the cell sites and the neighboring base stations. An advantage with this approach is that it allows the system to avoid or minimize the possibility of undesired influence of potential interference on the mobile communications devices. Accordingly, even when the link data transmission direction is not the same, the resource allocation method allocates the non-allocated radio resource to the link if the level of priority of the requesting mobile station is high and the allocation of the non-allocated radio resource is possible because of a low severity level of potential interference. However, this feature is completely absent in Obhan which neither teaches nor suggests this feature. As Obhan neither teaches nor suggests this feature of independent Claim 21 it is respectfully submitted that independent Claim 21 patentably defines over Obhan. As Claims 22-29 depend from Claim 21 it is respectfully submitted that these claims also patentably define over Obhan. For substantially the same reasons as discussed above with regard to Claim 21 it is respectfully submitted that independent Claim 30 and dependent Claims 31-38 also patentably define over Obhan.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 21-38 patentably define over the asserted prior art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.


Respectfully submitted,

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